

H.A

Notice of Allowability

Application No.

10/770,278

Applicant(s)

MOUMEN, NAIM

Examiner

Yennhu B. Huynh

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/2/04.
2. ☒ The allowed claim(s) is/are 14-20.
3. ☒ The drawings filed on 02 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 2/2/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Carl Whitehead, Jr.
CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

DETAILED ACTION

This Office Action is in response to the Preliminary Amendment filed on 02/02/04.

Claims 1-13 are cancelled by the Preliminary Amendment filed on 02/02/04.

Information Disclosure Statement

The information disclosure statement filed on 2/2/04 is being considered by the examiner.

Oath/Declaration

Oath/Declaration filed on 2/2/04 is accepted.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Leslie Szivos on 03/27/05.

The claim has been changed as follows:

In claim 15 lines 2, the recited limitation --25/min-- changed to --
25Angstroms/min--.

Allowable Subject Matter

Claims 14-20 are allowable over the prior art of record.

The following is an examiner's statement of reasons for allowance: Prior art of record does not disclose a method of a collar formation using selective SiGe/Si etch,

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which include the steps of etching a structure containing exposed surface of amorphous Si and SiGe with an aqueous solution of HF to remove oxide from the exposed surface; and etching the exposed amorphous Si surfaces with an aqueous NH_4OH to selectively remove the amorphous Si at a faster than the SiGe.

Burns et al. (6,258,679B1) disclose etching a structure containing an amorphous silicon and SiGe with a highly selective HF for remove oxide layer on the exposed surface, but not with an aqueous HF (col.4 lines 45-53).

Mercaldi et al. (6,316,370) disclose etching a structure containing an amorphous silicon or SiGe with a highly selective HF acid (or aqueous HF) but not for remove oxide layer on the exposed surface (col.3 lines 34-44 and col. 4 lines 28-35 and 55-60).

Aspnes et al. (US. 4,380,490) disclose etching a structure containing an Si and Ge substrate, but do not disclose amorphous silicon and SiGe, wherein the etching use with highly selective HF to remove oxide. Aspnes also disclose etching the substrate with NH_4OH (col.3 & 4), but do not disclose wherein the aqueous NH_4OH remove the silicon faster than the germanium.

Sakaguchi et al. (US 5,277,748) disclose etching a substrate containing Si but not amorphous silicon, and SiGe with HF etching, wherein the etching rate on Si is higher than SiGe (col. 3 & 4 lines 50-9), but do not disclose the etching is used by NH_4OH .

Therefore the above reference is improperly combined with each other.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yennhu B. Huynh whose telephone number is 571-272-1692. The examiner can normally be reached on M-F 8.30AM-7.00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached 571-272-1702. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

YNBH,
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